APPENDIX I Geotechnical Engineering Observations

Sean Todaro

12/21/2004 09:20 PM

To: Dwayne Deutscher/Sacramento/URSCorp@URSCORP

cc: Chris Mueller/Oakland/URSCorp@URSCORP, Galen

Nagle/Oakland/URSCorp@URSCORP, William Reylek/SantaAna/URSCorp@URSCorp, Adam Subject: December 21 Muscoy Site Visit

Dwayne,

Please find a draft of the site visit memo attached. In summary:

- We may want to consider having the contractor adjust the support at the front and back of the boring
- Although it is not necessary to have another site visit, it may be a good idea.

We will finalize the memo after we develop the site photos and after we discuss it with you. I will be out of the office starting December 22 and I will return on January 4. Galen or Chris should be available during at least some of that time.

Sean



Muscoy site visit 122104.do

URS

Memorandum

Date: December 21, 2004

To: Dwayne Deutscher

cc: Chris Mueller, Galen Nagle, Nick Reylek

From: Sean Todaro

Subject: Draft: Summary of Site Visit for Trenchless Construction Observations

Muscoy OU RA

This memorandum presents a summary of observations and recommendations based on the site visit to the trenchless undercrossing segment of the Muscoy Pipeline on December 21, 2004. This memo is in draft form and should be revised to include the site photographs, which could be developed during my absence from December 22 to January 4.

SUMMARY

Auger boring operations began and the contractor appeared to be experienced, competent, and familiar with some of the potential problems that could occur during construction. Our most significant item of concern is the thrust plate in the jacking pit, as our calculations indicate that it may be undersized and could undergo deflection and deformation as jacking forces increase later in the drive. The project may benefit from an additional site visit, although it is not absolutely necessary.

STAFF AND EQUIPMENT

The following staff and equipment were onsite at the time of our visit:

URS (Engineer)

Nick Reylek, URS Inspector

Ayala Boring (Trenchless Subontractor)

- Foreman: Eduardo
- Crane operator
- Laborers (2)

El-Co (Contractor)

End-dump truck driver

Helwig – Goodrow (Surveying)

- Party Chief: Ron
- Laborer (1)

Equipment

- Auger boring machine
- Peterbilt flatbed truck with hydraulic crane
- End dump truck